SEQUENCE LISTING

<110> YAN, Chunhua et al.

<120> ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF

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<210> 4
<211> 1308
<212> DNA
<213> Human

<400> 4
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aagctaacag acctaaaaga agcatcatgt tccatgactt catttcaccc caggggactt 180
caagctgccc gtgcccagaa gttcaagagt aaaaggccac ggagtaacag tgattgtttt 240
caggaagagg atctgaggca gggttttcag tggaggaaga gcctcccttt tggggcagcc 300
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<210> 5
<211> 435
<212> PRT
<213> Homo sapiens

<400> 5

```
Met Gly Gln Glu Leu Cys Ala Lys Thr Val Gln Pro Gly Cys Ser Cys
 1               5                  10                  15
Tyr His Cys Ser Glu Gly Gly Glu Ala His Ser Cys Arg Arg Ser Gln
            20                  25                  30
Pro Glu Thr Thr Glu Ala Ala Phe Lys Leu Thr Asp Leu Lys Glu Ala
        35                  40                  45
Ser Cys Ser Met Thr Ser Phe His Pro Arg Gly Leu Gln Ala Ala Arg
    50                  55                  60
Ala Gln Lys Phe Lys Ser Lys Arg Pro Arg Ser Asn Ser Asp Cys Phe
65                  70                  75                  80
Gln Glu Glu Asp Leu Arg Gln Gly Phe Gln Trp Arg Lys Ser Leu Pro
                85                  90                  95
Phe Gly Ala Ala Ser Ser Tyr Leu Asn Leu Glu Lys Leu Gly Glu Gly
            100                 105                 110
Ser Tyr Ala Thr Val Tyr Lys Gly Ile Ser Arg Ile Asn Gly Gln Leu
        115                 120                 125
Val Ala Leu Lys Val Ile Ser Met Asn Ala Glu Glu Gly Val Pro Phe
    130                 135                 140
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
145                 150                 155                 160
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Phe
                165                 170                 175
Val Phe Glu Tyr Met His Thr Asp Leu Ala Gln Tyr Met Ser Gln His
            180                 185                 190
Pro Gly Gly Leu His Pro His Asn Val Arg Leu Phe Met Phe Gln Leu
        195                 200                 205
Leu Arg Gly Leu Ala Tyr Ile His His Gln His Val Leu His Arg Asp
    210                 215                 220
Leu Lys Pro Gln Asn Leu Leu Ile Ser His Leu Gly Glu Leu Lys Leu
225                 230                 235                 240
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Ile Pro Ser Gln Thr Tyr
                245                 250                 255
Ser Ser Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Ala Leu Leu
            260                 265                 270
Gly Ala Thr Glu Tyr Ser Ser Glu Leu Asp Ile Trp Gly Ala Gly Cys
        275                 280                 285
Ile Phe Ile Glu Met Phe Gln Gly Gln Pro Leu Phe Pro Gly Val Ser
    290                 295                 300
Asn Ile Leu Glu Gln Leu Glu Lys Ile Trp Glu Val Leu Gly Val Pro
305                 310                 315                 320
Thr Glu Asp Thr Trp Pro Gly Val Ser Lys Leu Pro Asn Tyr Asn Pro
                325                 330                 335
```

```
Glu Trp Phe Pro Leu Pro Thr Pro Arg Ser Leu His Val Val Trp Asn
            340                 345                 350
Arg Leu Gly Arg Val Pro Glu Ala Glu Asp Leu Ala Ser Gln Met Leu
        355                 360                 365
Lys Gly Phe Pro Arg Asp Arg Val Ser Ala Gln Glu Ala Leu Val His
    370                 375                 380
Asp Tyr Phe Ser Ala Leu Pro Ser Gln Leu Tyr Gln Leu Pro Asp Glu
385                 390                 395                 400
Glu Ser Leu Phe Thr Val Ser Gly Val Arg Leu Lys Pro Glu Met Cys
                405                 410                 415
Asp Leu Leu Ala Ser Tyr Gln Lys Gly His His Pro Ala Gln Phe Ser
            420                 425                 430
Lys Cys Trp
        435
```

<210> 6
<211> 240
<212> PRT
<213> Mus musculus

<400> 6

```
Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly
 1               5                  10                  15
Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu
            20                  25                  30
Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe
        35                  40                  45
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
    50                  55                  60
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu
65                  70                  75                  80
Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Glu Gln His
                85                  90                  95
Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu
            100                 105                 110
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
        115                 120                 125
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
    130                 135                 140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
145                 150                 155                 160
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
                165                 170                 175
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
            180                 185                 190
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
        195                 200                 205
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
    210                 215                 220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
225                 230                 235                 240
```

<210> 7
<211> 245
<212> PRT

<213> Homo sapiens

<400> 7

```
Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly
 1               5                  10                  15
Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu
            20                  25                  30
Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe
        35                  40                  45
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
    50                  55                  60
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu
65                  70                  75                  80
Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Asp Lys His
                85                  90                  95
Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu
            100                 105                 110
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
        115                 120                 125
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
    130                 135                 140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
145                 150                 155                 160
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
                165                 170                 175
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
            180                 185                 190
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
        195                 200                 205
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
    210                 215                 220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
225                 230                 235                 240
Glu Arg Phe Thr Leu
                245
```

<210> 8
<211> 330
<212> PRT
<213> Mus musculus

<400> 8

```
Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly
 1               5                  10                  15
Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu
            20                  25                  30
Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe
        35                  40                  45
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
    50                  55                  60
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu
65                  70                  75                  80
Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Glu Gln His
                85                  90                  95
Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu
            100                 105                 110
```

```
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
        115                 120                 125
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
    130                 135                 140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
145                 150                 155                 160
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
                165                 170                 175
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
            180                 185                 190
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
        195                 200                 205
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
    210                 215                 220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
225                 230                 235                 240
Glu Arg Phe Thr Val Tyr Ser Ser Lys Ser Leu Arg Gln Ala Trp Asn
                245                 250                 255
Lys Leu Ser Tyr Val Asn His Ala Glu Asp Leu Ala Ser Lys Leu Leu
            260                 265                 270
Gln Cys Ser Pro Lys Asn Arg Leu Ser Ala Gln Ala Ala Leu Ser His
        275                 280                 285
Glu Tyr Phe Ser Asp Leu Pro Pro Arg Leu Trp Glu Leu Thr Asp Met
    290                 295                 300
Ser Ser Ile Phe Thr Val Pro Asn Val Arg Leu Gln Pro Glu Ala Gly
305                 310                 315                 320
Glu Ser Met Arg Ala Phe Gly Lys Asn Asn
                325                 330
```

<210> 9
<211> 330
<212> PRT
<213> Homo sapiens

<400> 9

```
Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly
 1               5                  10                  15
Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu
            20                  25                  30
Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe
        35                  40                  45
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
    50                  55                  60
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu
65                  70                  75                  80
Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Asp Lys His
                85                  90                  95
Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu
            100                 105                 110
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
        115                 120                 125
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
    130                 135                 140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
145                 150                 155                 160
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
```

```
                165                 170                 175
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
            180                 185                 190
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
        195                 200                 205
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
    210                 215                 220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
225                 230                 235                 240
Glu Arg Phe Thr Leu Tyr Ser Ser Lys Asn Leu Arg Gln Ala Trp Asn
                245                 250                 255
Lys Leu Ser Tyr Val Asn His Ala Glu Asp Leu Ala Ser Lys Leu Leu
            260                 265                 270
Gln Cys Ser Pro Lys Asn Arg Leu Ser Ala Gln Ala Ala Leu Ser His
        275                 280                 285
Glu Tyr Phe Ser Asp Leu Pro Pro Arg Leu Trp Glu Leu Thr Asp Met
    290                 295                 300
Ser Ser Ile Phe Thr Val Pro Asn Val Arg Leu Gln Pro Glu Ala Gly
305                 310                 315                 320
Glu Ser Met Arg Ala Phe Gly Lys Asn Asn
                325                 330
```

<210> 10
<211> 330
<212> PRT
<213> Mus musculus

<400> 10

```
Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly
 1               5                  10                  15
Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu
            20                  25                  30
Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe
        35                  40                  45
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
    50                  55                  60
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu
65                  70                  75                  80
Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Asp Lys His
                85                  90                  95
Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu
            100                 105                 110
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
        115                 120                 125
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
    130                 135                 140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
145                 150                 155                 160
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
                165                 170                 175
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
            180                 185                 190
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
        195                 200                 205
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
    210                 215                 220
```

```
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
225                 230                 235                 240
Glu Arg Phe Thr Val Tyr Asn Ser Lys Ser Leu Arg Gln Ala Trp Asn
                245                 250                 255
Lys Leu Ser Tyr Val Asn His Ala Glu Asp Leu Ala Ser Lys Leu Leu
            260                 265                 270
Gln Cys Ser Pro Lys Asn Arg Leu Ser Ala Gln Ala Ala Leu Ser His
        275                 280                 285
Glu Tyr Phe Ser Asp Leu Pro Pro Arg Leu Trp Glu Leu Thr Asp Met
    290                 295                 300
Ser Ser Ile Phe Thr Val Pro Asn Val Arg Leu Gln Pro Glu Ala Gly
305                 310                 315                 320
Glu Ser Met Arg Ala Phe Gly Lys Asn Asn
                325                 330
```

1